Storage Devices

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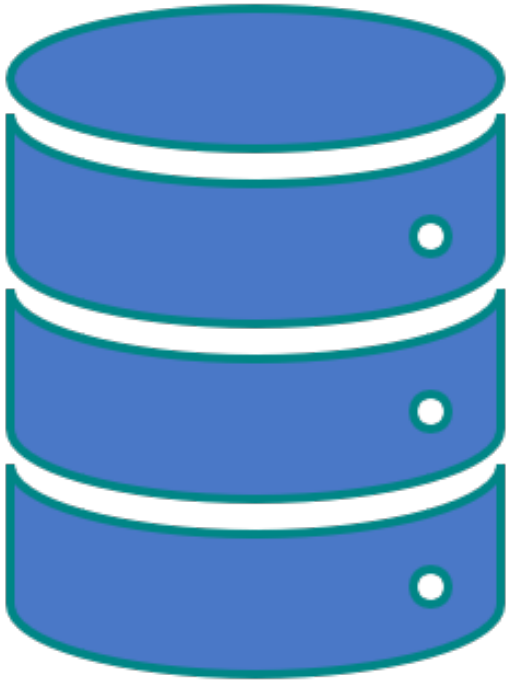


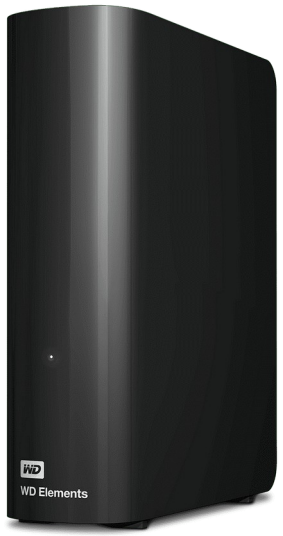
Storage Devices

Piece of computer equipment on which information can be stored.

Internal or External

Type Of Storage Devices

- **Hard Disk Drives (HDD)**
- **Solid State Drives (SSD)**
- **SD Cards**
- **USB Memory Sticks**
- **Optical Disks**
- **Magnetic Tape**



Hard Disk Drives HDD

These use magnetism to store data.

They are a common primary storage device for IT systems.

They can also be external which makes them more portable.

Data can be stored and transferred to another IT system.

ADVANTAGE – They have a large storage capacity.

ADVANTAGE – Very low cost when compared to the amount of data that can be stored.

DISADVANTAGE – Can be bulky therefore not as portable as other devices such as USB memory sticks.

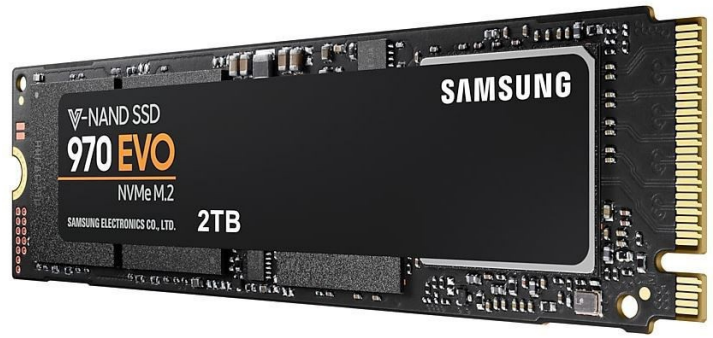
DISADVANTAGE – Can be slow due to mechanical moving parts.

Advantages/Disadvantes of Hard Disk Drives HDD

Solid State Drive

These types of storage devices use flash memory to store data.

Often used as the primary storage inside devices
- mobile phones and tablets.



ADVANTAGE – Fast to write and read data.

ADVANTAGE – Reliable as they have no moving parts like HDDs.

DISADVANTAGE – Costs much more than a HDDs on a per byte basis.

DISADVANTAGE – Lower storage capacity than HDD.

Advantage/Disadvantages

SD Cards

Small memory cards that use flash technology.

Used mainly for storage in digital cameras and smart phones as extra memory.

ADVANTAGE – Small and portable.

ADVANTAGE – Data can be transferred between devices if they have SD card readers.

DISADVANTAGE – Small so could easily be lost.

DISADVANTAGE – Restricted storage capacity (usually 64 – 128gb).

Advantage/Disadvantages

USB Memory Stick

Small memory sticks that use flash technology.

They have a USB connector so they can be connected to a variety of devices through a USB port.

Advantage/ Disadvatages

ADVANTAGE – Small and portable.

ADVANTAGE – A very compatible storage device as most desktop computers and laptop computers have USB ports.

DISADVANTAGE – Can only be written to a number of times before they stop working.

DISADVANTAGE – Restricted storage capacity compared to HDDs and SSDs.

Optical Disk

Mainly used to back up small amounts of data and to hold software, music an movies.

Examples are CDs, DVDs and Blue-ray disks.

Advantage/ Disadvantages

ADVANTAGE – Small and portable.

ADVANTAGE – Cannot be overwritten accidentally as they are read only once written to.

DISADVANTAGE – Cannot store large amounts of data (Max 50gb on Dual layer Blue-ray disks).

DISADVANTAGE – Very easily damaged due to their fragility.

Magnetic Tape

Mainly used by large businesses to backup large amounts of data.

ADVANTAGE – Huge storage capacity.

ADVANTAGE – Works out very cheap when compared to other storage devices on a per-byte basis.

DISADVANTAGE – Slow data access as it is accessed sequentially.

DISADVANTAGE – Special equipment is needed to read and write the data.

Advantage/Disadvantages

Practice Questions

1. Explain 2 reasons why you would choose a Solid-State Drive over a Hard Disk Drive?

2. Lance is a video editor. Explain 2 reasons why Lance should not use a memory stick to transfer video footage between his office and his home.

Answers

1) Solid state drives can access data much quicker than a hard disk drive. Solid state drives are much more reliable than hard disk drives as they have no moving parts.

2) Lance should not use a memory stick to transfer the video footage for two reasons. The first is that video footage can be very large in size where a memory stick has a restricted/small memory capacity. The second reason is that the memory stick is physically small in size and may be lost when transporting it from the office to his home.